

CLAIMS

1. A process for the preparation of a metal-doped pentasil-type zeolite, which process comprises the steps of:
 - 5 a) preparing an aqueous precursor mixture comprising a silicon source and an aluminum source, at least one of these sources being doped with a rare earth metal or a transition metal of Groups Vb-VIIIb, Ib, or IIb of the Periodic System, and
 - 10 b) thermally treating the precursor mixture to form a metal-doped pentasil-type zeolite.
2. The process of claim 1 wherein the doped pentasil-type zeolite is doped ZSM-5.
- 15 3. The process of claim 1 wherein a metal-doped silicon source is used.
4. The process of claim 3 wherein the metal-doped silicon source is selected from the group consisting of metal-doped sodium (meta)silicate or water glass, metal-doped stabilised silica sols, metal-doped silica gels, metal-
20 doped polysilicic acid, metal-doped tetra ethylortho silicate, metal-doped fumed silicas, metal-doped precipitated silicas, and mixtures thereof.
5. The process of claim 1 wherein a metal-doped aluminum source is used.

6. The process of claim 5 wherein the aluminum source is selected from the group consisting of metal-doped aluminum trihydrate ($\text{Al}(\text{OH})_3$), metal-doped thermally treated aluminum trihydrate, metal-doped (pseudo)boehmite, metal-doped aluminum chlorohydrol, metal-doped aluminum nitrohydrol, and mixtures thereof.
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7. The process of claim 1 wherein the aluminum source and/or the silicon source is doped with a metal selected from the group consisting of Ce, La, Mn, Fe, Cu, Ni, Zn, Mo, W, V, Pt, and Pd.
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8. The process of claim 1 wherein a shaping step is performed between steps a) and b).